

Appl. No. 09/701,791
Amdt. Dated 9/8/2005
Response to Office action dated

REMARKS

No claims have been amended or cancelled, and no new claims have been added. Claims 1-3 and 7-16 are pending. All but claim 1 have been allowed.

The prior responses were handled by Joel Landau. This response is being handled by Steven Sereboff because Mr. Landau is visiting the PTO today and was therefore unavailable to complete and file this response. Mr. Landau will continue to have primary responsibility for this case.

Disclaimers Relating to Claim Interpretation and Prosecution History Estoppel

Any reference herein to "the invention" is intended to refer to the specific claim or claims being addressed herein. The claims of this Application are intended to stand on their own and are not to be read in light of the prosecution history of any related or unrelated patent or patent application. Furthermore, no arguments in any prosecution history relate to any claim in this Application, except for arguments specifically directed to the claim.

Claim Rejections - 35 USC § 103

The Examiner rejected claim 1 under 35 USC § 103 as obvious from "the admitted prior art", Nakamura ("Recent Cements"; Concrete Products, Industry and Products, no. 53, p. 42-53) and Kushida et al. (USP 4,774,045). This rejection is respectfully traversed.

Kushida is directed to manufacturing concrete structural members. Kushida's method has six steps. First, a concrete layer is formed with cement concrete. Second, before the concrete layer begins to cure, aggregate is superposed on one side of the concrete layer to form a composite concrete layer. This allows the aggregate layer to be bound to the concrete layer. Third, the composite concrete layer is cured and dried. Fourth, the composite concrete layer is impregnated with a monomer or prepolymer. Fifth, the impregnated monomer or prepolymer is polymerized. Sixth, fresh concrete is placed on the aggregate layer side of the composite concrete layer.

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Kushida discloses that curing may take place under water or with steam at atmospheric pressure. The purpose of this step is to obtain a rigid concrete body that is proper for polymer impregnation.

Nakamura discloses curing using high temperature, high pressure curing water at over 100°C.

Claim 1 is directed to a method of manufacturing chemically prestressed components. In such manufacturing, voids typically form as a consequence of hydrate contraction. According to the claimed method, curing occurs "underwater in a high temperature high pressure curing water at over 100°C." This part of the method facilitates a continuous reaction in which pressurized liquid water continuously fills the voids. The highly pressurized water permeates deep into the microstructure of the cement to maintain void spaces. The method also includes "kneading [the] cement composition." As a consequence, the voids are filled.

The Examiner proposed combining the teachings of Nakamura with those of Kushida. In particular, the Examiner proposes combining the high temperature, high pressure curing water at over 100°C of Nakamura with the under water or steam curing of Kushida.

Yet, is apparent that the two techniques are incompatible. Picking and choosing elements from the prior art, as the Examiner has done, is impermissible hindsight. The under water or steam curing of Kushida cannot be combined with Nakamura unless the atmospheric pressure requirement of Kushida is also included. While increased pressure reduces cure time, it also reduces strength. Thus, there is no real motivation to use higher pressure. With a proper combination, the invention of claim 1 does not result.

Furthermore, the purpose and result of curing under water or with steam as taught by Kushida are entirely different than those of claim 1. For Kushida, a more porous microstructure of the concrete layer is preferred since the concrete should be impregnated by the required amount of polymer, but not the cement hydrates. In addition, the thickness of concrete described in Kushida is

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very thin (*see* column 7, lines 47-58) and usually this kind of thin plate is not considered to be concrete by one of ordinary skill in the art.

Accordingly, the combination of the three references does not render the invention of claim 1 obvious.

Conclusion

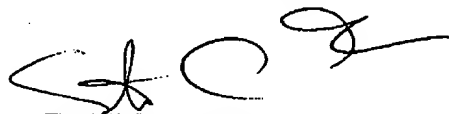
It is submitted, however, that the independent and dependent claims include other significant and substantial recitations which are not disclosed in the cited references. Thus, the claims are also patentable for additional reasons. However, for economy the additional grounds for patentability are not set forth here.

In view of all of the above, it is respectfully submitted that the present application is now in condition for allowance. Reconsideration and reexamination are respectfully requested and allowance at an early date is solicited.

The Examiner is invited to call the undersigned attorney to answer any questions or to discuss steps necessary for placing the application in condition for allowance.

Respectfully submitted,

Date: September 8, 2005



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